

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
JUKKA SUONVIERI

Confirmation No.: 3482

Application No.: 09/744,750

Filed: January 29, 2001

Art Unit: 2616

For: CONTROLLING PERIPHERAL DEVICE IN
COMMUNICATION SYSTEM

Examiner: Mattis, Jason E.

APPEAL BRIEF

MS APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Dear Sir:

As required under 37 C.F.R. § 41.37(a), this brief is filed in response to the "Notice of Panel Decision from Pre-Appeal Brief Review" mailed on December 15, 2006, and is in furtherance of the Notice of Appeal submitted on September 18, 2006 in response to the Final Office Action mailed June 19, 2006. A petition for a five-month extension of time and deposit account authorization have been separately provided.

The Director is authorized to charge the \$500.00 fee for filing a brief in support of appeal and the five (5) month extension of time fee of \$2,160 pursuant to 37 C.F.R. §41.20(b)(2). The Director is further authorized to charge any additional fees that may be due or credit any overpayment to Deposit Account No. **03-3975** under ref. no. 026293-0275671 from which the undersigned is authorized to draw.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.2:

- I. Real Party In Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments

V.	Summary of Claimed Subject Matter
VI.	Grounds of Rejection to be Reviewed on Appeal
VII.	Argument
VIII.	Conclusion
Appendix A	Claims
Appendix B	Evidence
Appendix C	Related Proceedings

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is NOKIA NETWORKS OY, Espoo, Finland. Evidence of this interest is provided by way of an Assignment to NOKIA NETWORKS OY, recorded in the U.S. Patent Trademark Office at Reel/Frame: 011545/0870.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application:

11 claims are pending, of which claims 1, 4, and 9 are independent.

B. Current Status of Claims

1. Claims canceled: 10 and 13

2. Claims withdrawn from consideration but not canceled: NONE

3. Claims pending: 1-9 and 11-12

4. Claims allowed: NONE

5. Claims rejected: 1-9 and 11-12

C. Claims On Appeal: Claims 1-9 and 11-12.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to the Final Office Action of June 19, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claims 1, 4, and 9, as described below, include references and citations to the specification (by page and line number) and drawings (by figure number and reference numerals) for this application, as originally filed.

Such description is intended to facilitate an understanding of the claims by the Board Members and is not intended as a comprehensive claim construction, such as used in the context of an argument of invalidity or infringement. Any reference to more than one reference number or character for any particular claimed element or limitation is illustrative only and is not to be construed as an admission that the claims are limited to any or all of the particularly disclosed embodiments.

Independent claim 1, as it currently stands, sets forth the following:

1. *A method (see FIG. 4, steps A-D) of controlling a radio repeater (see FIG. 2, #15) in a radio communication system comprising network elements (see FIG. 2 - “BSC”, “MSC”, “BTS2”) and subscriber stations (see FIG. 2, #3) in data transmission connection with each other via said radio repeater (see FIG. 2, “CNT3”, “BTS2”, and #15), and a subscriber station management system (see FIG. 2, #8) supervising and controlling the operation of the subscriber stations (see FIG. 2, #3) by control signals transmitted via a radio path (see FIG. 2, “CNT3”, and see Specification at p. 2, lines 30–36, and original claim 1), wherein*

said radio repeater (see FIGS. 2 and 3, #15) is provided with a radio receiver for receiving radio signals and with a radio transmitter (see FIGS. 2-3, wherein a receiver/transmitter combination is conventionally known in repeater 15) for transmitting said received signals (see FIG. 2, “CNT3”) to the subscriber stations (see FIG. 2, #'s 2-3), and said radio repeater is connected to a subscriber station that is one of the subscriber stations (see Specification at p. 7, lines 21-31, FIGS. 2-3, # 15 repeater, #16 WLL terminal), control means for controlling and supervising the radio repeater (see Specification at p. 7, line 32 – p. 8, line 9, FIG. 3, #'s 17-19; NOTE: the recited “means for controlling” may be construed under 35 U.S.C. §112, ¶6 as a processor (FIG. 3, #18 “PROCESSING”)

configured to run software instructions loaded in memory 17, as discussed, for example, at p. 8, lines 6-36 of the Specification), and

the radio repeater is controlled by means of the subscriber station management system (see FIG. 2, #8) by transmitting control signals (see FIG. 2, e.g., “CNT3”) from the subscriber station management system via a radio path to the control means (see Specification at p. 8, lines 18-29),

in response to which control signals (see FIG. 2, “CNT3”) the control means (see Specification at p. 7, line 32 – p. 8, line 9, FIG. 3, #'s 17-19) control and supervise the operation of the radio repeater such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change (see Specification at p. 8, lines 18-24).

Independent claim 4, as it currently stands, sets forth the following:

4. *A radio communication system (see Specification at p. 7, lines 12-20, FIG. 2) comprising:*

subscriber stations (see specification at p. 5, 7, lines 12-17, FIG. 2, #'s 2-3) comprising means for transmitting and receiving telecommunication signals on a radio path (see Specification e.g., at p. 1, lines 9-22 discussing conventional subscriber stations FIGS. 1 and 2, #'s 2-3, with conventional transmit/receive functionality; NOTE: the recited “means for transmitting and receiving” may be construed under 35 U.S.C. §112, ¶6 as a conventional transmitter/receiver combination or a transceiver appropriate for use in a subscriber station),

network elements in data transmission connection (see FIG. 2, e.g., “BSC”, “BTS1”, BTS2”, “CNT3, and repeater 15), said radio repeater comprising a radio receiver for receiving radio signals and a radio transmitter for transmitting said received signals to said subscriber stations (see FIGS. 2-3, in which repeater 15 is conventionally known to include a receiver/ transmitter arrangement),

at least one subscriber station to which said radio repeater is connected
(see Specification at p. 7, lines 21-31, FIGS. 2-3, repeater 15 connected to WLL terminal 16),

a subscriber station management system (see FIG. 2, #8) comprising means for controlling and supervising the operation of the subscriber stations by means of radio signals transmitted to the subscriber stations via the network elements, and for controlling and supervising the radio repeater connected to the subscriber station by means of control signals transmitted to the subscriber station by radio signals (see Specification at p. 6, lines 5-35 (discussing conventional maintenance center 4, management system 6, and subscriber station management system 7), p. 7, line 12 – p. 8, line 9 (discussing differences of the claimed management system with the conventional approach); NOTE: the recited “means for controlling and supervising the operation of the subscriber stations ...and for controlling and supervising the radio repeater” may be construed under 35 U.S.C. §112, ¶6 as a processor (present in subscriber station management system 8 in FIG. 2) configured to run software instructions loaded in a memory in subscriber station management system 8 as discussed, for example, at p. 9, lines 18-24 of the Specification and FIG. 4, step C) *such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change* (see Specification at p. 8, lines 18-24).

Independent claim 9, as it currently stands, sets forth the following:

9. *A subscriber station in a communication system (see e.g., FIG. 2, #'s 2-3 and WLL terminal 16) comprising:*

means for transmitting and receiving telecommunication signals over a radio path in order to set up a data transmission connection to other parts of the system (see Specification e.g., at p. 1, lines 9-22 discussing conventional subscriber stations (#'s 2-3) with known transmit/receive functionality, FIGS. 1 and 2, #'s 2-3, and radio unit TRX in FIG. 3; NOTE: the recited “means for transmitting and receiving” may be construed under 35 U.S.C. §112, ¶6 as a

conventional transmitter/receiver combination or a transceiver configured for use in a subscriber station, or as radio unit TRX in FIG. 3, for example),

means for controlling the operation of the subscriber station in response to control signals received via the radio path and for transmitting data on the state of the subscriber station to other parts of the system via the radio path (see Specification at p. 7, line 32 – p. 8, line 9, FIG. 3, #'s 17-19 and radio unit “TRX”; NOTE: the recited “means for controlling the operation of the subscriber station...and for transmitting data” may be construed under 35 U.S.C. §112, ¶6 as a processor (FIG. 3, #18 “PROCESSING”) configured to run software instructions loaded in memory 17, as discussed, for example, at p. 8, lines 6-36 of the Specification, and used in conjunction with radio unit “TRX” through bus 20),

connecting means for connecting a radio repeater (see FIGS. 2-3, #15) *comprising a radio receiver for receiving radio signals and a radio transmitter for transmitting said received signals to subscriber stations* (see FIGS. 2-3, wherein a receiver/transmitter combination is conventionally known in repeater 15, transmitting/receiving radio signal “CNT3”) (see FIG. 2, #'s 2-3) *to the subscriber station* (see FIGS. 2-3, #16; NOTE: the recited “means for connecting” may be construed under 35 U.S.C. §112 ¶6 as bus 20 operating under control of processor (“processing”) 18 in FIG. 3), *and*

control means which in response to control signals received via the radio path control and supervise the operation of the radio repeater which is connected to the subscriber station (NOTE: the recited “means for controlling” may be construed under 35 U.S.C. §112, ¶6 as a processor (FIG. 3, #18 “PROCESSING”) configured to run software instructions loaded in memory 17, as discussed, for example, at p. 8, lines 6-36 of the Specification) *such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change* (see Specification at p. 8, lines 18-24).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection submitted for review are those identified in the Final Office Action, as follows:

- A. Unpatentability rejection of claims 1-5, 7-9, and 12 under 35 U.S.C. §103(a), as allegedly being unpatentable over Rhodes et al. (US 5,909,437) in view of Laham et al. (US 6,442,372) and Treatch (US 5,898,382).**
- B. Unpatentability rejection of claims 6 and 11 under 35 U.S.C. §103(a), as allegedly being unpatentable over Rhodes et al. (US 5,909,437) in view of Laham et al. (US 6,442,372), Treatch (US 5,898,382), and Archambaud et al. (US 6,304,560).**

VII. ARGUMENT

At the outset, the prior art rejections are improper because the Examiner has not presented a *prima facie* case of obviousness with respect to the claims, and must fail for two reasons. First, none of the asserted references, whether taken alone or in combination, teach or suggest the entire claimed combination of elements. Accordingly, Appellant respectfully traverses the rejections set forth by the Examiner. Secondly, neither a rational reason nor proper motivation to combine the references in the manner suggested has been provided by the Examiner.

- A. The Examiner has not made the required *prima facie* case for unpatentability of claims 1-5, 7-9, and 12 under 35 U.S.C. §103(a) over Rhodes et al. in view of Laham et al. and Treatch.**

The Examiner has drawn a clearly erroneous conclusion based both on what appears to be the omission of essential elements required to establish a *prima facie* rejection, and the lack of motivation or teaching found within the applied art, Rhodes, Laham, and Treatch.

Appellant respectfully point out that, to establish a *prima facie* case of obviousness, three basic criteria offer useful insights. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the

claim limitations.¹ Further, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in [Appellants'] disclosure.²

The Supreme Court recently held that it is necessary, *inter alia*, for a court to look to interrelated teachings of multiple patents in order to determine whether there was an apparent reason to combine the known elements in the claimed. In this regard, the Court held “[t]o facilitate review, this analysis should be made explicit.”³ “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”⁴ The Examiner has not met this threshold burden, as discussed with more particularity below.

1. Rhodes et al. in view of Laham et al. and Treatch do not teach or suggest all the claimed limitations.

Discussion of Rhodes et al.

Rhodes et al. (“Rhodes”) merely discloses software download for a subscriber terminal of a wireless telecommunications system from a central station to a remote subscriber station for the configuring the remote subscriber station to permit wireless connection of user telecommunications equipment at the remote subscriber station to the central station (*see Rhodes Abstract*).

In the Final Office Action at page 4, and with respect to independent claims 1, 4, and 9, the Examiner admits that Rhodes does **not** disclose that the device connected to this subscriber station is a radio repeater provided with a radio receiver for receiving radio signals and with a radio transmitter for transmitting the received signals to subscriber stations in communication with other devices. The Examiner further admits that Rhodes does **not** disclose supervising the operation of the radio repeater such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change.

¹ See MPEP §2143.

² *In re Vaech*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) and See MPEP §2143.

³ *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. ____ (2007) (see p. 14).

⁴ See *Id.*, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

To summarize, Rhodes fails to teach or suggest any radio repeater whatsoever, and necessarily fails to teach or suggest a repeater including a receiver and a transmitter that would be connected to a subscriber station such that the frequency channels used by the receiver and transmitter can be changed by control signals received by the subscriber station via the radio path.

Discussion of Laham et al.

Laham et al. ("Laham") is purportedly directed to a method and system for communicating with remote units in a communication system having a communication center, a communication site, a user station, and a remote unit that allows the communication center to communicate with the user station over a user channel, and to communicate with a remote unit over a system channel such that the communication center can monitor, operate, or control the remote unit on and as-needed basis (*see Laham Abstract*).

In response to the admitted deficiencies of Rhodes, the Examiner offers Laham as teaching the missing claim limitations. In particular, the Examiner asserts that Laham teaches a system having a radio repeater with a receiver and transmitter controlled by a subscriber unit.

The Final Office Action asserted that Laham's repeater software and hardware system 72 act as a "subscriber station that receives commands from a remote MCRT 20 over a wireless radio link" (see p. 7 of the Final Official Action). However, if the system 72 is accepted as corresponding to the claimed subscriber station, then Laham, like Rhodes, fails to disclose, teach or suggest the claimed repeater that includes a receiver and transmitter whose frequency channels can be controlled by control signals received via the system 72. In fact, system 72 is included as part of a repeater. Thus, it cannot be said under *any* reasonable or technically rational interpretation of the art that system 72 corresponds to a subscriber station that controls a repeater.

Discussion of Treatch

The Examiner admits that neither Rhodes nor Laham disclose, teach or suggest a solution where a repeater is (wirelessly) controlled to change the frequency channels used by the repeater. However, the Final Office Action erroneously asserts that Treatch remedies the deficiencies of

Latham and Rhodes, and that one of ordinary skill in the art would have looked to Treatch to provide such a repeater.

Treatch is purportedly directed to a shared channel communication system that includes a scanning receiver coupled to a first antenna and a plurality of repeaters coupled to a second antenna. A computer is coupled to each repeater to control its operation and to the scanning receiver for obtaining traffic information from the receiver for storage in a memory. In Treatch, each repeater operates on an available channel, as determined by the traffic information, using a station ID associated with the channel (*see Treatch Abstract*).

Treatch purportedly teaches that scanning receiver 51 monitors activity in a propagation area to provide data to the control computer 41. Receiver 51 provides data to computer 41 concerning transmissions in the area (*see, Treatch, col. 4:2-3*). This data is used by control computer 41 to adjust the frequency channels used by the repeaters (*col. 3:65 to col. 4:8*).

Treatch is further asserted as teaching a "system" 40, comprising three repeaters 43, 44 and 45, which uses a unit with a common reception antenna 53, a common transmission antenna 49, and three agile repeaters 43 – 45 encapsulated together. Accordingly, Treatch merely teaches a single unit that includes an agile repeater that can be set to any channel in a band under remote control (*see Treatch at col. 3:51-52*) under the control of computer 41 ***that is included in the unit*** (*see Treatch at col. 3:60-62*). However, the data provided to computer 41 by receiver 51 clearly ***does not*** correspond to control signals (wirelessly) ***transmitted from the claimed subscriber station management system via a radio path*** to the claimed control means of the subscriber station wherein, in response to the control signals, the control means control and supervise the operation of the radio repeater such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change.

Notwithstanding the apparent teachings of Treatch, this reference fails to remedy the deficiencies of Latham and Rhodes with respect to (wireless) control of the frequency channels used by the repeater by control signals sent via a radio transmission path.

Specific Deficiencies of Rhodes, Latham, and Treatch

To summarize, Rhodes fails to disclose, teach or suggest the claimed solution wherein the subscriber station management system may be used to control both subscriber stations, by

transmitting control signals via a radio path, and may be used to control a repeater, by transmitting control signals via a radio path to a subscriber station which is connected to the repeater.

Laham fails to remedy the deficiencies of Rhodes because Laham merely teaches that it is advantageous to provide a repeater 30 with a single transmitter/receiver such that the control signals to the repeater can be transmitted among the other communication signals which the repeater forwards to the subscriber stations of the system.

Treatch merely teaches a single unit that includes an agile repeater that can be set to any channel in a band under remote control under the control of computer 41 included in the unit.

Specifically, the applied art, either alone or in combination, does not teach or suggest a method of controlling a radio repeater in a radio communication system comprising network elements and subscriber stations in data transmission connection with each other via said radio repeater, and a subscriber station management system supervising and controlling the operation of the subscriber stations by control signals transmitted via a radio path, wherein among other features, "*...the radio repeater is controlled by means of the subscriber station management system by transmitting control signals from the subscriber station management system via a radio path to the control means*, in response to [said] control signals *the control means control and supervise the operation of the radio repeater such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change*", as recited in independent claim 1 (*emphasis* added).

Further, the applied art, either alone or in combination, does not teach or suggest a radio communication system that includes, among other features, "... at least one subscriber station to which said radio repeater is connected, a subscriber station management system comprising *means for controlling and supervising the operation of the subscriber stations by means of radio signals transmitted to the subscriber stations* via the network elements, *and for controlling and supervising the radio repeater connected to the subscriber station* by means of control signals transmitted to the subscriber station by radio signals *such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change*", as recited in independent claim 4 (*emphasis* added).

Finally, the applied art, either alone or in combination, does not teach or suggest a subscriber station in a communication system that includes, among other features, "...control means which[,] *in response to control signals received via the radio path[,] control and supervise the operation of the radio repeater which is connected to the subscriber station such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change*", as recited in independent claim 9 (*emphasis added*).

Accordingly, since the suggested combination of Rhodes, Laham, and Treatch does not teach or suggest all the claimed limitations, reversal of the rejections and allowance of independent claims on 1, 4, and 9 by the Honorable Board are respectfully requested.

Further, dependent claims 2-3, 5, 7-8, and 12 are submitted as being allowable at least on the basis of the allowability of independent claims 1, 4, and 9, without further recourse to the patentable features contained therein. Allowance of claims 1-5, 7-9, and 12 is respectfully requested.

2. The Examiner has not provided a rational reason to combine Rhodes, Laham, and Treatch he in the manner suggested, at least because Treatch teaches away from the invention claimed in independent claims 1, 4, and 9.

The Examiner has drawn a clearly erroneous conclusion based upon the lack of a rational reason to combine the teachings of the applied art, Rhodes, Laham, and Treatch, in that a person of ordinary skill in the art would not be motivated to combine the references in the manner suggested by the Examiner.

An essential evidentiary component of an obviousness rejection is a teaching or suggestion or motivation to combine the prior art references.⁵ Combining prior art references without evidence of a suggestion, teaching or motivation simply takes the inventors' disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight.⁶

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary

⁵ *C.R. Bard, Inc. v. M3 Systems, Inc.*, 48 USPQ2d 1225 (Fed. Cir. 1998).

⁶ *Interconnect Planning Corp. v. Feil*, 227 USPQ 543 (Fed. Cir. 1985).

skill in the art.⁷ Further with regard to the level of skill of practitioners in the art, there is nothing in the statutes or the case law which makes “that which is within the capabilities of one skilled in the art” synonymous with obviousness.⁸ The level of skill in the art cannot be relied upon to provide the suggestion to combine references.⁹ Finally, there must be a rational reason for combining the references in the manner suggested.¹⁰

Treatch Teaches Away - No Rational Reason to Combine the References

Treatch actually teaches away from the claimed invention by teaching that a repeater should be able to *independently* adjust the frequency channels used by its equipment *without any outside control*. Based on such teachings, one of ordinary skill in the art would not have been motivated to alter the combined teachings of Rhodes and Laham to provide the claimed invention, wherein a subscriber management system, via a radio path, transmits control signals to a subscriber station connected to a repeater such that the subscriber station changes the frequency channels used by the repeater.

It is impermissible within the framework of 35 U.S.C. §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.¹¹ Further in this regard, As the Court of Customs and Patent Appeals, predecessor to the Federal Circuit, has held:

All relevant teachings of cited references must be considered in determining what they fairly teach to one having ordinary skill in the art. The relevant portions of a reference include not only those teachings which would suggest particular aspects of an invention to one having ordinary skill in the art, but also those teachings which would lead such a person away from the claimed invention.¹²

The rejections in the Official Action amount, in substance, to nothing more than hindsight reconstruction of Appellant's invention by relying on isolated teachings of the applied

⁷ See MPEP §2143.01, citing *In re Rouffet*, 149 F.3d, 1350, 1357, 47 USPQ2d 1453, 1457-8 (Fed. Cir. 1998).

⁸ *Ex parte Gerlach and Woerner*, 212 USPQ 471 (PTO Bd. App. 1980).

⁹ See MPEP §2143.01, citing *Al-Site Corp. v. VSI Int'l Inc.*, 50 USPQ2d 1161 (Fed. Cir. 1999).

¹⁰ See *KSR Int'l.* 550 U.S.

¹¹ *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 USPQ 416 (Fed. Cir. 1986).

¹² *In re Mercier*, 185 USPQ 774, 778 (CCPA 1975).

art, without considering the overall context within which those teachings are presented. Without benefit of Appellants' disclosure, a person having ordinary skill in the art would not know what portions of [Rhodes, Laham, or Treatch] to consider, and what portions to disregard as irrelevant or misleading.¹³

The Examiner merely provides a conclusory statement at page 9 of the final office action that "the motivation [is] to allow the frequency usage pattern of a wireless system to be changed and optimized without the need to physically access the repeaters of the system at the location of the repeaters." Appellants submit that this "reason" is clearly based on improper hindsight, using Appellants' disclosure against them, since the Appellant's claims and disclosure are the only place of record where the claimed solution may be found.

Even if the teachings of Rhodes and Laham were combined, one of ordinary skill in the art would not have arrived at the claimed invention because *Laham clearly teaches away from the claimed invention because, in Laham, it is sufficient to use only one radio transmitter/receiver in connection with the repeater, and not a separate subscriber station in addition to the receiver and transmitter of the repeater*, as in the claims on appeal. Specifically, Laham teaches that it is advantageous to provide a repeater 30 with a *single* transmitter/receiver such that the control signals to the repeater can be transmitted among the other communication signals which the repeater forwards to the subscriber stations of the system (see Laham, col. 7, lines 3 - 46). Thus , it is clear that a person of ordinary skill in the art would not know which aspect of the teachings of Laham to incorporate and which to disregard in order to arrive at Appellant's claimed invention.

As a result, the combined teachings of Rhodes and Laham fail to provide the recited solution detailed in the rejected claims, and further fail to provide *any* motivation or rational reason to go against the teachings of Laham, particularly with respect to independent claims 1, 4 and 9, wherein a radio repeater is variously recited as being connected to a subscriber station in such a way that the radio repeater is controlled by the subscriber station in response to control signals transmitted on a radio path to the subscriber station.

¹³ *In re Wesslau*, 147 USPQ 391, 393 (CCPA 1965).

Further support for Appellants' argument that there is no rational reason to combine the references in the manner suggested may be found, for example, in the fact that Treatch also arguably discloses the use of a radio repeater, Treatch does not disclose a subscriber station which would be attached to a repeater and which, in response to control signals received via a radio path, would control the frequency channels used by the repeater. Such a solution is only found in Appellants' disclosure and claims.

Accordingly, since there is no rational reason or motivation to combine the references in the manner suggested by the Examiner, reversal of the rejections and allowance of claims 1-5, 7-9, and 12 by the Honorable Board are respectfully requested.

- B. The Examiner has not made the required *prima facie* case for unpatentability of claims 6 and 11 under 35 U.S.C. §103(a) over Rhodes et al. in view of Laham et al., Treatch, and Archambaud et al.**
- 1. Rhodes et al. in view of Laham et al., Treatch, and Archambaud et al. do not teach or suggest all the claimed limitations.**

Claims 6 and 11 depend from allowable independent claims 4 and 9, respectively, and are submitted as being allowable at least on that basis, without recourse to the additional patentable features claimed therein. Further, Archambaud et al. does not make up for previously identified deficiencies of Rhodes, Laham, and Treatch, as discussed further below. The legal requirements for unpatentability have been stated.

Discussion of Archambaud et al.

The Examiner admits Rhodes, Laham, and Treatch do not disclose that the subscriber station, subscriber station management system, and other elements of the communication system are parts of a wireless local loop communication system, transmitting data and control signals wirelessly between the system elements.

On page 13 of the Final Office Action, and to overcome these admitted deficiencies, the Examiner offers Archambaud et al. ("Archambaud") as teaching a wireless system that is a wireless local loop (WLL) system with the subscriber stations 18 and management systems located in wireless local loop base stations 17.

Archambaud is purportedly directed to a personal handy-phone system having wireless local loops and methods of transmitting information within personal handy-phone systems which includes a base station, a repeater station configured to transmit a plurality of uplink radio signals to the base station and receive a plurality of downlink radio signals from the base station, and a portable station configured to transmit the downlink radio signals to the repeater station and receive the uplink radio signals from the repeater station (*see Archambaud abstract*).

Archambaud similarly fails to remedy the deficiencies of the combined teachings of Rhodes, Laham, and Treatch, because Archambaud merely teaches various conventional aspects of WLL systems. *Archambaud does not teach or suggest wirelessly changing the receive/transmit frequency of a repeater connected to a WLL terminal*. There is no teaching or suggestion of a repeater connected to or under the control of a WLL terminal in Archambaud.

Specific Deficiencies of Rhodes, Laham, and Treatch in view of Archambaud

Whether or not the Examiner's assertions regarding Archambaud are true in this regard, Archambaud fails to make up for the previously-identified deficiencies of Rhodes, Laham, and Treatch with respect to disclosing, teaching, or suggesting the invention claimed in independent claims 4 and 9 from which claims 6 and 11 respectively depend.

As discussed above, the applied art, either alone or in combination, does not teach or suggest a radio communication system that includes, among other features, "... at least one subscriber station to which said radio repeater is connected, a subscriber station management system comprising *means for ...controlling and supervising the radio repeater connected to the subscriber station* by means of control signals transmitted to the subscriber station by radio signals *such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change*", as recited in independent claim 4 (*emphasis added*) from which claim 6 depends.

Finally, and as discussed above, the applied art, either alone or in combination, does not teach or suggest a subscriber station in a communication system that includes, among other features, "...control means which[,] *in response to control signals received via the radio path[.] control and supervise the operation of the radio repeater which is connected to the subscriber station such that the frequency channels received by the radio receiver and the frequency*

channels used by the radio transmitter change", as recited in independent claim 9 (*emphasis added*), from which claim 11 depends.

Accordingly, since the suggested combination of Rhodes, Laham, Treatch, and Archambaud does not disclose, teach, or suggest all the claimed limitations at least of independent claims 4 and 9, reversal of the rejections and allowance of claims 6 and 11 by the Honorable Board are respectfully requested.

2. The Examiner has not provided a rational reason to combine Rhodes, Laham, Treatch, and Archambaud in the manner suggested, at least because Treatch teaches away from the invention claimed in independent claims 4 and 9 from which claims 6 and 11 respectively depend.

In the interest of brevity, the arguments presented above with respect to independent claims 4 and 9 regarding the improper motivation and lack of a rational reason to combine Treatch with Rhodes and Laham in the manner suggested are incorporated herein without restatement.

Accordingly, since there is no rational reason to combine Rhodes, Laham, and Treatch in the manner suggested by the Examiner, regardless of the further combinability of Archambaud, reversal of the rejections and allowance of claims 6 and 11 by the Honorable Board are respectfully requested.

VIII. CONCLUSION

For at least the foregoing reasons, it is respectfully submitted that claims 1-9 and 11-12 are not rendered obvious by any combination of the references applied under 35 U.S.C. §103(a). Accordingly, Appellants respectfully request the Honorable Board to reverse the rejection of these claims and direct that the claims be passed to issue.

The following appendices to this Brief are provided, as required under the Patent Rules:

- Appendix A Claims on appeal (claims 1-9 and 11-12)
- Appendix B Evidence (NONE)
- Appendix C Related Proceedings (NONE)

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Respectfully submitted,

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- Appendix A Claims
- Appendix B Evidence
- Appendix C Related Proceedings

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/744,750

1. A method of controlling a radio repeater in a radio communication system comprising network elements and subscriber stations in data transmission connection with each other via said radio repeater, and a subscriber station management system supervising and controlling the operation of the subscriber stations by control signals transmitted via a radio path, wherein

said radio repeater is provided with a radio receiver for receiving radio signals and with a radio transmitter for transmitting said received signals to the subscriber stations, and said radio repeater is connected to a subscriber station that is one of the subscriber stations,

control means for controlling and supervising the radio repeater, and

the radio repeater is controlled by means of the subscriber station management system by transmitting control signals from the subscriber station management system via a radio path to the control means, in response to which control signals the control means control and supervise the operation of the radio repeater such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change.

2. A method as claimed in claim 1, wherein the network elements consist of base stations.

3. A method as claimed in claim 1, wherein the control means arranged to the subscriber station comprise at least a memory and processing means, the method further comprising:

storing a control program in the memory of the subscriber station to control the radio repeater, and

adapting the processing means to control the radio repeater on the basis of the control program stored in the memory and the control signals transmitted by the subscriber station management system.

4. A radio communication system comprising:

subscriber stations comprising means for transmitting and receiving telecommunication signals on a radio path,

network elements in data transmission connection with the subscriber stations by radio signals via a radio repeater, said radio repeater comprising a radio receiver for receiving radio signals and a radio transmitter for transmitting said received signals to said subscriber stations,

at least one subscriber station to which said radio repeater is connected,

a subscriber station management system comprising means for controlling and supervising the operation of the subscriber stations by means of radio signals transmitted to the subscriber stations via the network elements, and for controlling and supervising the radio repeater connected to the subscriber station by means of control signals transmitted to the subscriber station by radio signals such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change.

5. A communication system as claimed in claim 4, wherein the network elements are base stations.

6. A communication system as claimed in claim 4, wherein said subscriber station is a WLL terminal, and said subscriber station management system is the management system of the WLL terminals.

7. A communication system as claimed in claim 4, wherein the subscriber station comprises control means for controlling and supervising the operation of the radio repeater connected to a control bus in the subscriber station, and that the subscriber station management system comprises means for controlling the control means of the subscriber station via control signals transmitted to the subscriber station.

8. A communication system as claimed in claim 4, wherein the subscriber station comprises processing means, a memory and means for storing a predetermined control program of the radio repeater in the memory, whereby the processing means control said radio repeater on the basis of the program stored in the memory and the control signals conveyed by the subscriber station management system.

9. A subscriber station in a communication system comprising:

means for transmitting and receiving telecommunication signals over a radio path in

order to set up a data transmission connection to other parts of the system,

means for controlling the operation of the subscriber station in response to control signals received via the radio path and for transmitting data on the state of the subscriber station to other parts of the system via the radio path,

connecting means for connecting a radio repeater comprising a radio receiver for receiving radio signals and a radio transmitter for transmitting said received signals to subscriber stations to the subscriber station, and

control means which in response to control signals received via the radio path control and supervise the operation of the radio repeater which is connected to the subscriber station such that the frequency channels received by the radio receiver and the frequency channels used by the radio transmitter change.

11. A subscriber station as claimed in claim 9, wherein said subscriber station is a WLL terminal, and that said control means control the operation of the radio repeater connected to the subscriber station in response to the control signals received from a management system of the WLL terminals via the radio path.

12. A subscriber station as claimed in claim 9, wherein the subscriber station comprises processing means, a memory and means for storing a predetermined control program of the radio repeater in the memory, whereby the processing means control said radio repeater on the basis of the program stored in the memory and the control signals conveyed by a management system.

APPENDIX B

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

APPENDIX C

No related proceedings are referenced in Section II of this Brief. above, hence copies of decisions in related proceedings are not provided.